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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/526,602 03/16/00 SUDA

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IM52/1009

EXAMINER
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1185 AVENUE OF THE AMERICAS  
NEW YORK NY 10036

RODEE, C ART UNIT	PAPER NUMBER
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1753  
DATE MAILED:

10/09/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

# Office Action Summary

Application No.

09/526,602

Applicant(s)

SUDA ET AL.

Examiner

Christopher D RoDee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 24 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 21-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 21-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

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## DETAILED ACTION

### *Claim Objections*

Claim 21 is objected to because of the following informalities: the Markush group in claim 21 mixes commas and semicolons for separating species. The claim should be consistent in its use of these punctuation marks. Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 21-27 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The claims have been amended to specify that heating occurs after the steps of dispersing and mixing while stirring. This order of steps was not previously presented and does not appear to have basis in the specification as filed. If there is basis for the amendment applicants are asked to refer the Examiner to the pertinent sections of the specification.

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Claims 21-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims as amended are indefinite because it is unclear if the dispersing and mixing steps are actually required steps in the process. The process only recites these steps in reference to the timing of the heating step, but they are not positively recited as occurring in the process. Clarification is suggested.

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hou in US Patent 5,358,822.

This rejection was set forth in the last Office action. Briefly Hou discloses a process of making a liquid toner in the process of Example 2. In the process a thermoplastic polymer (see patent claim 1) and a pigment (e.g., carbon black- an inorganic pigment) are placed in a solvent that is a good solvent for the polymer at high temperatures and a poor solvent at lower temperatures. The polymer and pigment are heated to a temperature where the polymer is dissolved and then cooled so the polymer precipitates with the pigment. The precipitated polymer particles are removed from the solvent and then redispersed in ISOPAR and mixed with cupric naphthenate along with a steric stabilizer (apparently a dispersant).

Applicants discuss the rejection in the response and then identify reasons why they believe Hou does not suggest the claimed invention. Applicants state that the reference does

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not appreciate that the solubility parameters (SP) of the resin and solvent. The difference in solubility parameter value is used in the instant invention to control particle size diameter. The Examiner agrees that the reference does not disclose the respective solubility parameters of the resin and solvent. However, the resin and solvent in Hou must inherently <sup>have</sup> a solubility parameter. The size of the precipitated particles in Hou would be a result of the solubility parameters of the solvent and resin and other process conditions, such as heating, mixing, and cooling characteristics. The reference, viewed from the perspective of the skilled artisan, would understand that the process variables, including SP, control the size, shape, and other characteristics of the particles. The claims are not limited to particles having a size of 2 to 3 mm as specified in the remarks.

Applicants also traverse the rejection because the reference does not disclose the thermoplastic resin as being insoluble at room temperature. Although this is not explicitly disclosed by the reference, the exemplified process does teach the mixture of polymer, pigment, and solvent are heated to 70°C to form a solution (i.e., to dissolve the polymer). If the polymer dissolved at room temperature there would be no specific need to increase the temperature to a value substantially above room temperature. This clearly suggests to the artisan that the polymer is not soluble or not substantially soluble at room temperature.

The reference exemplifies sonification to mix the the components placed in the solvent and heating to 70°C to form a solution. Clearly the reference teaches that the components must be dispersed in the solvent, mixed, and heated to form the solution. Mixing would be expected to expedite the dissolution of the polymer in the solvent. Whether the mixing starts before, continues through, or ends before heating is seen as obvious design choices for the artisan as the reference clearly teaches the requisite steps. As long as the required solution is formed, the order of conducting the steps are obvious design choices for the skilled artisan. Inorganic

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particles such as carbon black or other pigments are shown to be added to the solution before precipitation.

The rejection is seen as proper and is maintained.

Claims 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hou in US Patent 5,358,822 as applied to claims 21-24 above, and further in view of Sato *et al.* in US Patent 3,808,026.

This rejection, also of record, is traversed by applicants in the recent response. Specifically, applicants traverse for the same reasons as given for the rejection of Hou above. The Examiner's remarks above are pertinent here and respond to those grounds of traversal. Additionally, applicants state that the titanium oxide and silica used in Sato are used as a white pigment while in the instant application these components provide the fluid with electric viscous properties.

The Examiner has carefully considered applicant's remarks but must maintain the rejection. Sato reasonably suggests the addition of silica and titanium oxide to the liquid toner of Hou as colorant. The reason for addition of these particles to Hou does not need to be the same as the reasons used by applicant as long as there is rational for the combination. The Examiner has provided that rational based on the reference's own disclosure. Specifically, a white pigment in the toner allows for development of the image background (i.e., surface of the paper - col. 3, l. 9-13). Development of the background area on the photoreceptors permits neutralization of background charges and allows clear images to be formed. There is ample motivation for the combination of Sato's particles into Hou's process and toner.

The rejection is proper and is maintained.

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**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher D RoDee whose telephone number is 703 308-2465. The examiner can normally be reached on most weekdays from 6 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on 703 308-3322. The fax phone numbers for the organization where this application or proceeding is assigned are 703 872-9310 for regular communications and 703 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308-0661.

cdr  
September 18, 2001

  
CHRISTOPHER RODEE  
PRIMARY EXAMINER